Eco-Footprinting in the Primary School

Teacher pack: Food

School: ......................................................
Teacher: ...................................................
Class/Year Group: ......................
Dates taught: .................................
Introduction to this pack
Background training material
Curriculum overview
Overview of PSE sessions
Example PSE sessions (upper KS2)
  What is diversity?
  Why am I a global citizen?
  So where do we start?
  Food
  Where in the world?
  Fair’s fair
  Bags of trouble!
  Eco-Footprinting survey
  Eco-Footprinting results
  Action stations!
  Shout about...
Introduction to this pack

Education for Sustainable Development and Global Citizenship delivered through Cardiff Schools’ Eco-Footprinting Project

Why?

Because educating children about sustainable development and global citizenship enables them to make informed choices about their lifestyle now and in the future based upon an understanding of their impact on the environment and their dependence on people around the world.

Because Estyn’s ‘Guidance on the Inspection of Primary and Nursery Schools’ (September 2004) includes Education for Sustainable Development (ESD) as a key question for inspectors.

Question 3.11 asks: Do the learning experiences promote education for sustainable development? and continues

You should evaluate:

3.11.1 pupils’ awareness and understanding of sustainable development and global citizenship;
3.11.2 how well the school promotes sustainable development and global citizenship; and
3.11.3 the extent to which the school acts in a sustainable way.

(Please see the full text of the guidance related to this question on page 5.)

How?

As part of its work on Education for Sustainable Development and Global Citizenship (ESDGC) Cardiff Advisory Service for Education has been piloting a project based on schools calculating their ecological footprint (see ‘What?’) and
using this as a means of measuring improved environmental performance year on year. This series of Personal and Social Education (PSE) sessions have been developed for pupils in upper KS2 to accompany the project and add to the ESDGC offering of schools, linking clearly with the community, moral and environmental aspects of the Personal and Social Education Framework, Key Stages 1 to 4 in Wales (ACCAC, 2000); subjects within the National Curriculum for Wales (ACCAC, 2000) and the EcoSchools Programme.

What?

This pack consists of a series of PSE sessions for upper KS2. They come complete with pupil sheets, background information for teachers and most resources. An explanation of ecological footprinting for staff and for pupils is included on the CD, as well as the questionnaires needed to take part in the survey on the footprints website – www.schoolsfootprint.co.uk.

Who?

This pack has been developed for busy teachers to pick up and use easily. Individual teachers are welcome to use the sessions as a starting point and are encouraged to differentiate them to their own pupil’s abilities and interests. Whilst ‘food’ is the initial focus of this project in primary schools, a draft curriculum map is provided to help schools identify where other topics related to the project can be incorporated across the age range.

When?

The PSE sessions have been developed for use as a module to be taught over the course of a term. It would be beneficial to deliver the lessons alongside other ESDGC topics that the pupils might be studying, for example, designing and making healthy sandwiches in Design and Technology or life in a developing country in Geography.

Where?

The majority of these sessions can be taught in the classroom, although some may require a larger space or the use of the school grounds.
How much?

This pack is supplied on a CD to Cardiff schools at cost price. Resources may need to be photocopied by the school and on occasion may need to be collected by staff and / or pupils (e.g. food packaging). Every effort has been made to make this project sustainable, so resources needed have been kept to a minimum.

Guidance on the Inspection of Primary and Nursery Schools (Estyn, September 2004)

Key Question 3.11: Do the learning experiences promote education for sustainable development?

You should evaluate:
3.11.1 pupils' awareness and understanding of sustainable development and global citizenship;
3.11.2 how well the school promotes sustainable development and global citizenship; and
3.11.3 the extent to which the school acts in a sustainable way.

Further guidance:

A number of subjects will make a contribution to education for sustainable development and global citizenship, especially geography and PSE. However, other subjects should also be making a contribution.

You will also need to see to what extent the school acts in a sustainable way. The school could be asked whether it has any policies on sustainable development, for example in areas such as energy use, recycling, waste minimisation and supporting healthy life styles. The effectiveness of the school’s work in this area will be evident in the day-to-day running of the school. Some schools may have achieved an award for their work in respect of sustainable development, for example, the Eco-schools award or awards promoted by LEAs. You should refer to the Estyn, ACCAC, Welsh Assembly Government and DFID document ‘Education for Sustainable Development and Global Citizenship’ for further guidance.
The PowerPoint presentation 'Eco-Footprinting in the Primary School – Teachers', included on this CD, explains what an eco-footprint is and how you can use it to deliver Personal Social Education and Education for Sustainable Development in your classroom.

This presentation can be viewed by individual teachers at the beginning of this topic, or as INSET for a group of teachers.
Curriculum overview

The following curriculum overview highlights where learning experiences in KS2 can promote education for sustainable development and global citizenship. It is acknowledged that there will be many further links which individual schools can identify.
Education for Sustainable Development and Global Citizenship Curriculum Map

This curriculum map has been developed as an example to identify where learning experiences in KS2 can promote education for sustainable development and global citizenship (ESDGC), the key concepts of which are identified in 'Education for Sustainable Development and Global Citizenship' (ACCAC, DFID, Estyn and Welsh Assembly Government, 2002). It highlights where Science and Geography may currently make an implicit contribution to ESDGC and where those topics could be developed through Personal and Social Education sessions related to the Cardiff Schools Eco-Footprinting Project and the EcoSchools programme. It is acknowledged that there will be many further links, which individual schools can identify.

Key Concepts of ESDGC:
- Interdependence
- Citizenship and Stewardship
- Needs and Rights
- Diversity
- Sustainable Change
- Quality of Life
- Uncertainty and Precaution
- Values and Perceptions
- Conflict Resolution

Topics of Cardiff Schools EcoFootprinting Project:
- Food
- Transport
- Energy
- Water
- Waste
- Buildings

Topics of EcoSchools programme:
- Healthy Living
- Transport
- Energy
- Water
- Waste Minimisation
- School Grounds
- Global Citizenship
- Litter

Key Stage Two Learning Outcomes from the Personal and Social Education Framework most closely linked to the key concepts of ESDGC:

Attitudes and Values:
Education for Sustainable Development and Global Citizenship Curriculum Map

- Respect others and their property, value their achievements and their uniqueness and recognise the importance of equality of opportunity;
- Value and celebrate cultural difference and diversity;
- Take increasing responsibility for their actions;
- Be curious and inquisitive and have a sense of wonder at natural phenomena and human achievement; and
- Take an active interest in the life of the community and be concerned about the wider environment.

Skills:
- Empathises with others' experiences and feelings; and
- Develop strategies to resolve conflict and deal with bullying.

Knowledge and Understanding:

Community Aspect
- Know about aspects of their cultural heritage in Wales including the multi-cultural dimension; and
- Understand the importance of democratic decision making and involvement and how injustice and inequality affect people's lives.

Emotional Aspect
- Understand the situations which produce conflict.

Spiritual Aspect
- Recognise the uniqueness and interdependence of individuals; and
- Understand that people have different beliefs which shape the way they live.

Moral Aspect
- Understand that their actions have consequences
- Know that people differ in what they believe is right and wrong.

Vocational Aspect
- Know about the process and people involved in the production, distribution and selling of goods and the role of advertising from the local to global level; and
- Understand the limitations on and costs and benefits of spending choices.

Environmental Aspect
- Know how the environment can be affected by human activity; and
- Understand how conflict can arise from different views about environmental issues.

[Identified in PSE sessions in this pack]
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<th>Subject</th>
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| Science | Life Processes and Living Things  
- **Diversity**: To find out about the variety of plants and animals found in different habitats including the local area |             |             |
| IT      |                                                                              |             |             |
| Welsh   |                                                                              |             |             |
| Geography | Our Local Area  
- **Sustainable Change / Transport**: To begin to formulate ideas and opinions about geographical issues (advantages and disadvantages of different modes of transport to school and environmentally friendly alternatives)  
- **Sustainable Change**: To identify ways in which people affect the environment  
- **Citizenship and Stewardship / Transport**: To understand individual responsibility for the environment |             |             |
| History |                                                                              |             |             |
| Art     |                                                                              |             |             |
| DT      |                                                                              |             |             |
| Music   |                                                                              |             |             |
| RE      |                                                                              |             |             |
| PSE     |                                                                              |             |             |
### Education for Sustainable Development and Global Citizenship Curriculum Map

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<td>• Healthy Living: To know how to care for the teeth and the importance of dental care</td>
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<td>• Healthy Living: To develop an awareness of the effects of exercise and rest on pulse rate</td>
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<td>• Healthy Living: To develop an awareness of the possible harmful effects of tobacco, alcohol and other drugs</td>
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<td><strong>Geography</strong></td>
<td>A Contrasting Locality - Wick</td>
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<td>• Citizenship and Stewardship: To understand individual responsibility for the environment (how the village could be improved that would appeal to children of their age)</td>
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<td>• Diversity: To appreciate the quality of an environment</td>
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<td>Science</td>
<td>Materials and their Properties</td>
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<td>• Needs and Rights / Water: To understand the water cycle and the part played by evaporation and condensation</td>
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<td>• Sustainable Change: To identify ways in which people change the environment</td>
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<td>• Sustainable Change / Quality of Life: To recognise that people have different views about changes to the environment</td>
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<td>PSE</td>
<td>• Citizenship and Stewardship / Diversity: Selected sessions from Oxfam Cool Planet about Global Citizenship</td>
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## Year Six

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<td>Welsh</td>
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<td>Geography</td>
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<td>- Sustainable Change: To identify ways in which people affect the environment</td>
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Overview of PSE sessions

This pack provides a series of PSE sessions for use with upper KS2. They have been designed to introduce the pupils to the concept of ecological footprinting and how they can reduce their impact on the Earth, through the topic of food. The sessions support the material on the footprints website – www.schoolsfootprint.co.uk.

Over the course of the sessions, pupils will zoom in from a global citizenship view to a specific focus on how what they eat impacts on the environment. They will learn what an eco-footprint is, collect data and calculate the school’s footprint. Finally, the pupils will reflect on their learning, develop an action plan for environmental improvement and share the lessons they have learnt with others.

This structure of the sessions is illustrated on the following page, and can be applied to any of the eco-footprinting topics (water, energy, buildings, food, transport or waste) across the school. It is important to plan for continuity and progression through these topics on a whole school level to avoid repetition and extend learning.

A detailed breakdown including the learning objectives, activities, outcomes, resources and pupil sheets follows for each session. Question prompts are suggested within discussion sessions. These should be used at the teacher’s discretion to encourage pupils to process the information discussed or recall information – it is not necessary to ask all questions in each session. It is beneficial to promote understanding by encouraging the children to steer the discussions.
The Big Picture
Session 1: What is Diversity?
Session 2: Why am I a Global Citizen?

Developing awareness and a sense of respect for the world. Helping pupils to understand they have a role to play in the world.

How can I help?
Session 3: So where do we start?
Session 4: Food?

Knowing that our impact on the Earth can be measured as an Eco-Footprint. Identifying how the topic being studied affects the Earth.

Getting down to the nitty gritty
Session 5: Food miles
Session 6: Fairtrade
Session 7: Packaging

Exploring the specific issues related to how the topic being studied impacts on the environment.

The School Eco-Footprint Project
Sessions 8-10: Eco-Footprinting

Carrying out the school topic survey and inputting the data collected. Calculating the school Eco-Footprint and comparing it with other years / countries.

Action Stations
Session 11: Action Plan
Session 12: Shout About

Identifying and agreeing how to work together to reduce the school’s Eco-Footprint for the topic studied and producing materials to inform and encourage the whole school community.
Example PSE sessions

1. What is diversity?
2. Why am I a global citizen?
3. So where do we start?
4. Food
5. Where in the world?
6. Fair’s fair
7. Bags of trouble!
8. Eco-Footprinting survey
9. Eco-Footprinting survey
10. Eco-Footprinting results
11. Action stations!
12. Shout about...
1. What is diversity?

LEARNING OBJECTIVES

- To develop awareness and a sense of respect and wonder about the Earth and its inhabitants by studying and discussing images from around the world.
- To compare the similarities and differences of their lifestyles with those of other people around the world.

LEARNING ACTIVITIES

This lesson aims to broaden the pupil’s awareness knowledge of people around the world. An interactive whiteboard / access to a computer and internet access are necessary to display Google Earth and the PowerPoint show. All of the photographs (with and without captions can also be found at http://www.oxfam.org.uk/coolplanet/teachers/photopps/gallery.htm).

INTRODUCTION

Thought provoker: Ask pupils to complete ‘What’s important?’ sheet with no teacher input. This sheet will be completed again at the end of this project so that the pupils can self-evaluate changes in their attitude.

Activity 1: Use Google Earth to zoom out from your school to the view of the whole world. (Google Earth must be downloaded (search for it in Google) and the school found and place marked prior to the lesson - the software is quite easy to use with a little practice and well worth it to give the pupils some appreciation of the scale of the Earth). Can the class identify the outline of Wales, the UK, Europe and other countries they know? Alternatively / additionally use globes for pupils to find these countries and get an idea of the scale of Wales within the world.

Discussion: Move around the globe on Google Earth. Which countries have the pupils visited on holiday? Locate these countries on Google Earth. What were the people like there: did they look different / wear different clothes / eat different foods? Why do the children think people might live differently around the world? Are different ways of life better or worse than theirs? Why? The teacher should not make any judgemental comments here - the pupils should develop their ideas over the course of the session. Ask the pupils to work together to
discuss and write down why people might live differently around the world. Feedback and discuss.

MAIN ACTIVITY
Activity 2: Look at the slide show of 'People Around the World' with the class.

Discussion: Ask pupils to volunteer what they can 'read' from each picture - where do they think the person is and why? What do they think they are doing? etc. Read the captions and reflect on predictions together - how do the images make them feel? Use the blue questions to aspects of the children's lives with those of the people in the photos.

Activity 3: If there was to be a photograph of you in the slideshow, what would it include? What would you wear, do, who would you be with? What could you draw to represent your life in Wales? Pupils draw a 'photograph' showing them in their daily life. Write a caption to explain the 'photo'.

Extension: Extend the caption to compare their activity to one from the slide show. Use a digital camera to capture real images and add to slide show.

PLENARY

Discussion: The pupils have looked at how people are different around the world and some reasons for this - can they also reflect on how children are similar around the world. Why do they think this is? Introduce the term 'global citizen' - we are all living on the Earth together as equals, no-one is better or worse than another just because they have a different culture or lifestyle.

LEARNING OUTCOMES

PSE Attitudes and Values:
- To value and celebrate cultural difference and diversity.

PSE Knowledge and Understanding:
- To recognise the uniqueness and interdependence of individuals.
RESOURCES

What’s important? sheet
Interactive whiteboard / Computer
Internet access
Globes and atlases
This is me... worksheet
Pencils and felts

FOLLOW UP WORK

Encourage children to bring in photographs of themselves going about their daily lives and write captions to explain something about their lives. It could make a classroom display, along with images from the slide show.
What’s important?

You’re about to take a journey with your class and your teacher to discover how the choices you make every day can change the world! Sound good? It will be and it might even change you...

Before you start your journey, colour in this graph to see what you think now – at the end of the journey you’ll do it again and see whether you’ve changed!

Colour in the globes in each column – the more you agree with the statement, the more globes you colour in, the less you agree, the less colouring you do! You’ll end up with something that looks a lot like a pictogram.
This is me...

During this session you've learnt about people around the world. You've 'read' photographs that have let you see into other people's lives and you've talked about how they are similar to and different from you.

If there was to be a photograph of you in the slideshow, what would it include? What would you wear and do, who would you be with? What would you draw to represent your life in Wales?

Have a think; perhaps talk through ideas with a partner. Then draw a 'photograph' in the frame below showing you in your daily life. Write a caption underneath it to explain your 'photo'.

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2. Why am I a global citizen?

LEARNING OBJECTIVES
- To participate in a role play and discussion about what we use and waste from the Earth’s resources.
- To begin to understand and explain some of the effects humans can have on the natural environment.

LEARNING ACTIVITIES

This session builds on session one to help pupils see how everyone impacts on the world. Some specific terminology is introduced (sustainable and eco-footprint).

INTRODUCTION

Activity 1: Write the following quote on the board for the children to think about as they arrive:
'The problem with land is that they stopped making it some time ago.'
Mark Twain

Discussion: Ask the children what they think the quote might mean? Why might is be a problem that no more land is being made? Give pupils time to discuss, then feedback, listing all ideas on the board.

MAIN ACTIVITY (Adapted from Treading Lightly on the Planet, WWF 2004)

Activity 2: Sit in a circle somewhere comfortable and ask the children to imagine that one day they come out of school to find a glass dome has come down on top of their school, covering an area of 10 hectares (about 10 football pitches) around it. The dome goes down into the soil so that only light and heat can enter or escape. No air, water, food or other resources can get in, and no sewage, rubbish or other waste can get out. How long do they think they would survive? Why?

Discussion: Build on the pupils’ responses to reinforce that we take for granted that our local environment can interact with the rest of the world, e.g. we mine coal and extract oil for energy, we transport our rubbish somewhere else to dump it, we bring food and building materials in, our air and water are replenished by the wind and the rain. Most of us are completely reliant on faraway sources for even our most basic needs.

Activity 3: Give everyone a piece of card or sugar paper and ask them to
remove their shoes and socks, then carefully draw round their feet and cut out the footprint outlines (or give them pre-cut footprint outlines).

Ask the class for examples of how their lifestyles depend on the natural environment – need for food and oxygen (refer to science work on life processes), water, resources to make energy and other things like plastic, natural environment for recreation etc. Give them time to talk freely and note down their ideas as summary words on one of their foot outlines e.g. Plants, animals, water, clean air, rocks and metal, peace and quiet, fossil fuels, space.

Repeat this activity focusing on how our lifestyle impacts on the natural world, asking the children to consider those impacts they thought of from Activity 2. Impacts might include dumping of waste in landfill, pollution from cars, cutting down trees for paper, digging up the earth for building materials.

Give the class a few minutes to look at each other's footprints and talk with each other about what impacts they have spotted. These footprints could then be used to make a display following session three.

Discussion: Ask the class why they think you asked them to write their words on footprints – where do you normally see footprints? What causes them? Explain that we can measure the amount of impact we have on the Earth by measuring our global eco-footprint. A footprint means pressing down, and global means the world so ‘global eco-footprint’ means pressing down on the world and we don't want to press too hard. We press down on the Earth by taking resources from it and putting waste into it. Our footprint will include what we eat, how we travel, what we throw away, where we live and how much energy we use.

PLENARY

Activity 4: Explain that you are all taking part in a project to measure the school's eco-footprint – the impact the whole school has on the environment. Ask the class how you think the school impacts at the moment. Ask them to consider how we could make its impact, and therefore its eco-footprint, smaller.

Discussion: Do the children think that everyone in the world has the same footprint because they all share the same Earth? Would it be fair for some people to use all of the resources and others have none? Why is it important to know that you are a global citizen and share the planet with other people and animals? Should we live in a sustainable way, i.e. meet our needs today without taking away resources that people of the future will need?
LEARNING OUTCOMES

PSE Attitudes and Values:

• To take an active interest in the life of the community and be concerned about the wider environment.

PSE Knowledge and Understanding:

• To understand that their actions have consequences.
• To know how the environment can be affected by human activity.
• To understand how conflict can arise from different views about environmental issues.

RESOURCES

Classroom board
Space to sit comfortably in a circle, then spread out and work (Hall?)
Sugar paper / card or footprint outlines pre-cut
Animal footprints homework sheet

FOLLOW UP WORK

The children could complete ‘Animal footprints’ sheet as homework to highlight the different impacts humans have to any other species on Earth.
RESOURCE: FOOTPRINT OUTLINES
Animal footprints

Our eco-footprint is a measure of our impact on the Earth. A footprint means pressing down, and global means the world so 'global eco-footprint' means pressing down on the world and we don't want to press too hard. We press down on the Earth by taking resources from it and putting waste into it.

Choose an animal and investigate how heavily it presses on the Earth.
Use the Internet, reference books and your own knowledge to help you answer the questions below.

I am a (e.g. cow) ........................................

<table>
<thead>
<tr>
<th>What type of habitat do I live in?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A habitat is a type of place to live, like a city, a grassland, a forest, a woodland, the sea or underground.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What kind of things do I consume (eat) or use up?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Think about how I travel, what I live in (e.g. a nest, a barn) and what I eat. Think of solids, liquids and gases.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What kind of things do I produce as waste?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Think about how I travel, what I live in and what I eat (has it come from a tin like dog food does?). Think of solids, liquids and gases.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do you think my eco-footprint (not my actual footprint!) is heavier or lighter than yours?</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Why?</th>
</tr>
</thead>
</table>

I am a child who lives in Wales. I think that my eco-footprint is heavier than the eco-footprint of a ........................................ but lighter than the eco-footprint of a ........................................
3. So where do we start?

LEARNING OBJECTIVES

- To understand that an individual’s impact on the Earth can be measured.
- To be aware of the concept of Ecological Footprinting and begin to understand how it can be used to improve the environmental friendliness of the school.

LEARNING ACTIVITIES

INTRODUCTION

(Cards adapted for primary school use from Global Steps by Best Foot Forward Limited. Packs of cards suited to secondary school and adult use can be purchased for £3.00 each (minimum order 10 packs) at http://www.bestfootforward.com/globalsteps.html)

Activity 1: Give each child / pair / small group a set of the eight card ‘Card sharp’ cards. Ask them to group them into related pairs (holiday, transport, heating, electricity, paper, food, waste and water) then choose which card of the pair is most like them. There are a number of points on each card, which the children write into the table on the ‘Card sharp – my footprint’ sheet.

Discussion: Before completing the sheet, ask the pupils why they think that the different choices each have a different number of points. Can they relate the number of points with the impact the choice has on the environment? Explain that the points they have scored are a simplified way of working out their impact on the Earth. They can now work out the number of planets we would need to support us if everyone made the same choices the children had just made – around one planet would be needed for roughly every 100 points.

MAIN ACTIVITY

Activity 2: Remind the class that we can measure the amount of impact we have on the Earth by measuring our global eco-footprint. Look through the ‘What is eco-footprinting?’ slide show with the class to introduce the concept of eco-footprinting and how it relates to our choices.

Note. The apple exercise in the slide show refers to land area as a way of illustrating how little usable land there is. Remember a global or eco
footprint also includes the sea since we get food and other resources from the sea and deposit waste in it.

Discussion: Use open questions to reinforce learning during and after the slide show.

Activity 3: Snakes and ladders - check that pupils know how to play the game. Highlight that it’s chance whether you slide down a snake or climb up a ladder, but you don’t learn much from it. The children’s task is to turn the blank board into a learning game by writing statements in the boxes below the ladders and above the snakes. They can use the card sharp cards for ideas, but should show understanding by putting environmentally friendly choices below ladders and choices that have a bigger impact on the world above snakes.

Discussion: Feedback some questions used below ladders and above snakes.

PLENARY
Activity 4: Play each other’s snakes and ladders games.
Discussion: Reinforce that the choices each child makes every day makes a difference to the world around them.

LEARNING OUTCOMES

PSE Attitudes and Values:
• Respect others and their property, value their achievements and their uniqueness and recognise the importance of equality of opportunity.
• Take increasing responsibility for their actions.
• Take an active interest in the life of the community and be concerned about the wider environment.

RESOURCES

Card Sharp cards
Card sharp - my footprint sheet
What is eco-footprinting? slide show
Blank snakes and ladders sheet - enlarged to allow writing in boxes
Counters and dice
FOLLOW UP WORK

A display could be made with the pupils showing the number of planets needed to sustain the children's' current lifestyle choices. The footprints filled in by the pupils in session two could be used to cover the planets.
You fly away on holiday at least once a year
* 65 points *

You usually holiday close to home
* 10 points *

You normally travel by car
* 75 points *

You normally travel by foot, bike or bus
* 10 points *
Your house is kept warm by keeping the heating on
* 45 points *

You wrap up warm and use the heating sparingly
* 10 points *

You regularly use electrical items (e.g. TV, computer)
* 50 points *

Renewable electricity is used in your home
* 2 points *
You regularly buy books and magazines
* 10 points *

You usually borrow books and share magazines
* 5 points *

You eat plenty and don’t mind where the food’s from
* 100 points *

You eat locally grown vegetarian food
* 32 points *
You recycle little or none of your waste
* 100 points *

You recycle and produce very little waste
* 30 points *

You take lots of baths; use a dishwasher and a hose
* 5 points *

You usually shower and don't have a dishwasher
* 1 points *
Card sharp – my footprint

In this session you are learning about how we can measure the impact we each have on the Earth. Your teacher will ask you to play a card game. Think carefully about your answers and use the space below to note down the points you score. Add them all together to work out your total. Then complete the statements below with the class. Good luck!

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holidays</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td></td>
</tr>
<tr>
<td>Heating</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
</tr>
<tr>
<td>Paper</td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td></td>
</tr>
<tr>
<td>Waste</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td></td>
</tr>
</tbody>
</table>

My total score is ...........

This means that if everyone made the same choices, we would need ........... planets to support us.

We only have one planet.
RESOURCE: BLANK Snakes AND Ladders 'BOARD'
(From www.makingsenseofhealth.org.uk/)

You can photocopy and enlarge this sheet for the pupils to use or download and print a 'crisper' PDF of this board at:
4. Food

LEARNING OBJECTIVES

- To consider how what we eat impacts on the global environment.
- To understand some of the processes of food production and distribution.
- To realise that we can make choices to reduce our eco-footprint and the impact we have on the environment.

LEARNING ACTIVITIES

INTRODUCTION

Activity 1: Briefly revise the previous session with the class. Use open and closed questioning to check their understanding of what an eco-footprint is, why it’s used and what topics it covers. Remind them of the card game – what sorts of things did that look at? Ensure that they realise that your eco-footprint covers the food you eat, the transport, energy and water you use, the buildings you shelter in and the waste you produce.

Explain to the children that you can understand how transport has an impact on the Earth. Elaborate on its impacts: for example you drive on roads which use stone from the ground, fumes are produced as we drive that pollute the air, fossil fuels are burnt to power engines and cars, buses and planes are made from metals from the ground. Tell the class that you’re unsure about how what you eat has an impact on the environment. Ask them to talk about this in small groups and work together to note down their ideas on the ‘Where’s the impact?’ concept map.

Discussion: Feedback ideas and list them on the board, allowing pupils to borrow a couple of ideas from other groups. Ensure pupils have considered that products we buy are manufactured, packaged, transported and disposed of.

MAIN ACTIVITY

Adapted from Where’s the Impact? by the Sustainable Development Unit, Rhondda Cynon Taf County Borough Council, 2006. This activity is based on a resource developed by the Centre for Alternative Technology. The cards can be obtained from CAT www.cat.org.uk/education/education.tmpl?subdir=education&section=fpintro
Activity 2: To begin photocopy the cards so that each group has a set (each set includes 8 of each card). Explain that together they are going to choose cards that tell the story of a product from beginning to end. Show some of enlarged cards and explain that each card represents a stage in the life of the potato from where it is grown to when it is used. Go through an example first with the whole class contributing to the story. Show them the potato and ask the class to begin the story by suggesting the first card. Then follow this up by adding more cards (use enlarged cards and stick them up on a wall so everyone can see). The story should look something like this:

*Plastic Packaging*

- Oil rig
- Lorry
- Factory (Oil refinery)
- Lorry
- Factory (manufacture the plastic)
- Lorry
- Factory (to package potatoes)
- Lorry
- Freight Ship
- Lorry
- Shop
- Car
- Home
- Rubbish Truck
- Landfill

*Potato*

- Cropland
- Tractor
- Lorry
- Factory (to be packaged)
- Lorry
- Freight Ship
- Lorry
- Shop
- Car
- Home
- Cooker
- Rubbish Truck
- Compost /Landfill (Peelings)

Discussion: Use questioning to check that the class have understood the process they’ve just worked through. Ask each group to place the drinks can from their shopping bag in the middle of the table. Discuss the nature of the drinks can and the contents. They will need to consider the can, the water and the sugar separately. The teacher fact sheet contains information about how cans are produced to share with the class.

Activity 3: Ask the groups to lay out their cards in sequence to tell the life story of the drinks can. Explain that if they think of a step that does not have a card they can write on the back of a card that is not going to be used.

Discussion: Go through the story as a class asking each group to contribute. The emphasis should be on the complexity of the story so don’t worry too much about the accuracy or if each groups story is slightly different. [Identify where people are involved in the process as you work through]. The story should look something like this:

*Can*

- Quarry
- Lorry
- Freight Ship
- Lorry
- Factory (Smelting)
- Lorry
- Freight Ship
- Lorry
- Factory (where cans are made)
- Lorry
- Fridge in Shop
- Car /Bike
- Fridge in Home
- Rubbish Truck
- Recycling /Landfill

*Water*

- Reservoir
- Lorry
- Factory (to be made into a drink)

*Sugar*
PLENARY

Activity 4: Return to the concept maps the groups started at the beginning of the session. Using a different coloured pen, ask them to add any new ideas they have about how what you eat can impact on the environment.

Discussion: Talk about the eco-footprints of the potato and the fizzy drink. What alternatives could the children choose that might have a smaller eco-footprint? This might be as simple as choosing loose potatoes instead of packaged ones.

LEARNING OUTCOMES

PSE Knowledge and Understanding:

- Understand that their actions have consequences.
- Know about the process and people involved in the production, distribution and selling of goods.

RESOURCES

Where’s the impact? sheet
Teacher fact sheet
A set of activity cards of each group
Some enlarged cards (see example activity for cards needed)
A pack of potatoes in plastic wrapping (non-organic, from overseas)
A drinks can for each group
(Marc Everett, Sainsbury’s Food Advisor at the Colchester Avenue store, is keen to be involved with this project and may provide these resources for your school if you contact him in advance.)
Different coloured pens / pencils
The majority of drinks cans are made of aluminium.

Aluminium is made from Bauxite.

Bauxite is a mineral which can be dug from the ground.

Bauxite comes from various places in the world including Australia and Jamaica, but not Europe.

Bauxite is quarried as a powder and transported across the globe to find a cheap electricity source. The powder is then smelted to produce the metal - this uses a great deal of electricity.

The main ingredients of fizzy drinks are - water and sugar.

We get sugar from two plants - sugar beet and sugar cane.

Half of the sugar we use in the UK comes from sugar beet that is mostly grown in the Eastern counties of England and the West Midlands. The other half comes from sugar cane grown in countries such as Jamaica, Barbados, Mauritius and Fiji.

Juice is extracted from either sugar beet or cane and impurities are removed. It is then crystallised into white sugar. Sugar is identical whether it comes from beet or cane.

Drinks cans are packaged in many countries around the world including the United Kingdom, South Africa, Chile and Japan.

Cans are made in a factory and then transported to a canning plant to be filled with drink. There they are sealed, inspected and packaged.

Water comes from reservoirs close to the location of the canning plant. It is filtered at the canning plant to make it as pure as possible.
Where’s the impact?

Today you’re going to investigate how what you eat has an impact on the environment. Spend a few minutes now jotting down your ideas about this. Two examples have been given to start you off.

How I think food affects the environment...

We drive cars to the shops and give off fumes

Land is used to grow crops like potatoes

Well done – good thinking! If people come up with different ideas when you discuss this as a class, choose a couple of your favourites from them and write them in on your sheet in a different colour. Sharing ideas is great!
LEARNING OBJECTIVES

- To learn about where different types of crops are grown and identify those countries on maps and globes.
- To work out the number of food miles travelled by different foods and the impact this has on the environment.

LEARNING ACTIVITIES

INTRODUCTION
(adapted from Miles and miles and miles (or kilometres)... in the Soil Association's Food for Life Curriculum pack, available online)

Activity 1: Give each group of children a shopping bag containing food from around the world (see resource list for further information). The children should find out where each item of food comes from and draw a picture of the food with labels showing its name and its country of origin around the edges of their 'Where in the world?' sheets.
Discussion: Let each group feedback what food items they've got – showing the rest of the class – and where they come from. Can others help groups that haven't been able to identify the country of origin?

MAIN ACTIVITY
Activity 2: Introduce the idea of 'food miles' – how far food travels from where it is grown to where it is eaten. Pupils use atlases and globes to identify where each of 'their countries' are in the world and shade them on their map. They should draw a line from that country to Wales to show the journey of the food. They should use the table on the 'How far has your food travelled?' sheet to label how far each food has travelled.
Discussion: Feedback from each group. If you have an interactive whiteboard, a world map can be displayed and lines drawn from the countries of origin to Wales to emphasise the distances travelled. Alternatively, a paper world map can be used.

Activity 3: Pupils add up the distances that their food has travelled to calculate the food miles total for their shopping bag and note this on their sheet.
Discussion: Compare the distances travelled by the different foods with a food Olympics. Which food travelled the furthest? Which comes from the coldest country? Which food has been grown closest to home? Be careful not to associate ‘furthest travelled’ with ‘best’.

PLENARY

Activity 4: Write the following question on the board and given groups time to talk about it: Why do we transport food all around the world?

Discussion: Feedback and discuss potential reasons including that some crops can only be grown in certain climates, e.g. coffee and cocoa, people want choice and access to foods all year round, whether or not its in season, and people are eating more and more unusual foods as transport makes it easier for them to be transported. Ask the class what impact transporting food might have on an eco-footprint. How could an eco-footprint be reduced by making sensible choices about food miles when shopping?

LEARNING OUTCOMES

PSE Knowledge and Understanding:

- To understand that their actions have consequences.
- To know how the environment can be affected by human activity.

RESOURCES

A shopping bag containing a range of foods from around the world, which includes processed foods and labelled fresh produce. Try to provide items from every continent and some fresh produce, for example apples and lettuce that could have been grown in the UK but which have been imported from other continents. A bag for each group of children will be needed. Try to include different foods in the bags so that pupils can feedback different information from each group.

(Marc Everett, Sainsbury’s Food Advisor at the Colchester Avenue store, is keen to be involved with this project and may provide these resources for your school if you contact him in advance.)

Globes / atlases

Where in the world? sheet (map from Christian Aid Live Thoughtfully RE curriculum resource)

How far has your food travelled? Sheet (table from Soil Association Food for Life Curriculum pack)

Interactive whiteboard world map / paper world map
FOLLOW UP WORK

If you are looking for opportunities to include cookery in your lessons, this topic could also be taught through the idea of 'The whole world cake', where pupils look at ingredients for a cake they could bake. A lesson plan for this activity can be found in Christian Aid's pack 'Live Thoughtfully, an RE curriculum for global citizenship' at http://www.christian-aid.org.uk/learn/schools/primary/freeitem/regc/thought1.htm

A display could be made using the same idea as activity 2. Flags could be used to pinpoint the countries of origin and string used to connect them to pictures of the foods.

Pupils could be challenged to find out how far a typical Sunday lunch has travelled, for homework. They could agree a list of ingredients and find out where they might have come from by accompanying their parents on a shopping trip. They then need to total these distances.
Where in the world?

Look carefully at the food on your table. Can you see any labels or stickers that tell you where it has come from? When you’ve found out where it’s from, locate that country using a globe or atlas. Then mark it on the map below. Draw a picture of the food on the edge of the map, label it and draw a line from it to the country it came from.

Write down how many miles the food has travelled, using the table of distances your teacher gives you.

If you’re thinking that this map looks strange, read on… The world is shown in Peters Projection. It shows countries more accurately in relation to their true size, whereas traditional maps are misleading about country sizes (they make countries that are near the Equator look much smaller than they really are)... so now you know!

Total food miles for my shopping bag:
How far has your food travelled?

Use this table shows to find out the distance to London from countries where lots of food is grown.

<table>
<thead>
<tr>
<th>Country</th>
<th>Distance (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyprus</td>
<td>3218</td>
</tr>
<tr>
<td>France</td>
<td>343</td>
</tr>
<tr>
<td>Germany</td>
<td>929</td>
</tr>
<tr>
<td>Greece</td>
<td>2391</td>
</tr>
<tr>
<td>Ireland</td>
<td>469</td>
</tr>
<tr>
<td>Italy</td>
<td>1444</td>
</tr>
<tr>
<td>Spain</td>
<td>1261</td>
</tr>
<tr>
<td>Turkey</td>
<td>2835</td>
</tr>
<tr>
<td>Morocco</td>
<td>2011</td>
</tr>
<tr>
<td>Egypt</td>
<td>3520</td>
</tr>
<tr>
<td>Tunisia</td>
<td>1821</td>
</tr>
<tr>
<td>Kenya</td>
<td>6804</td>
</tr>
<tr>
<td>South Africa</td>
<td>9027</td>
</tr>
<tr>
<td>Tanzania</td>
<td>7473</td>
</tr>
<tr>
<td>Zambia</td>
<td>7906</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>8258</td>
</tr>
<tr>
<td>Argentina</td>
<td>11082</td>
</tr>
<tr>
<td>Brazil</td>
<td>9186</td>
</tr>
<tr>
<td>Chile</td>
<td>11649</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>8732</td>
</tr>
<tr>
<td>Ecuador</td>
<td>9215</td>
</tr>
<tr>
<td>Mexico</td>
<td>8941</td>
</tr>
<tr>
<td>Peru</td>
<td>10158</td>
</tr>
<tr>
<td>Venezuela</td>
<td>7503</td>
</tr>
<tr>
<td>Australia</td>
<td>16984</td>
</tr>
<tr>
<td>New Zealand</td>
<td>18331</td>
</tr>
<tr>
<td>Russia</td>
<td>2508</td>
</tr>
<tr>
<td>Thailand</td>
<td>9534</td>
</tr>
<tr>
<td>Jamaica</td>
<td>7541</td>
</tr>
<tr>
<td>India</td>
<td>6701</td>
</tr>
<tr>
<td>Canada</td>
<td>5376</td>
</tr>
<tr>
<td>U.S.A</td>
<td>5913</td>
</tr>
</tbody>
</table>
6. Fair’s fair

LEARNING OBJECTIVES

- To be aware of the concept of fair trade and how this can affect people’s lives around the world.
- To engage in discussions about trade, inequality and fair trade cooperatives.

LEARNING ACTIVITIES
(adapted from What’s fair about fair trade in the Soil Association’s Food for Life Curriculum pack, available online)

INTRODUCTION
Activity 1: Explain that today’s session is all about trade – buying and selling. Give the class one minute to discuss how many people they think are involved in transporting a banana from where it is grown (do they know they are grown in the Caribbean?) to their local shop.
Discussion: Feedback and write ideas on the board – don’t tell the children the real answers yet.

MAIN ACTIVITY
Activity 2: Visit Oxfam’s ‘Bonkers about bananas!’ website at http://www.oxfam.org.uk/coolplanet/kidsweb/banana/index.htm as a class. Hand out copies of the banana quiz to pairs / small groups. Give them time to read through the questions and tell them to put up their hand when they can answer any question from the information on the website. Read through ‘The travels of a banana’ as a class, comparing the people involved with the children’s initial ideas. End up with a list of those involved in the process: plantation worker, plantation owner, shipper and importer, ripener and supermarket. Have ten kilograms of weights to illustrate to the children how many bananas the average person eats every year.
Discussion: Did the children predict everyone who would be involved in enabling them to eat a banana? What did they find interesting about the travels of a banana? Do they think they eat ten kilograms of bananas a year?

Activity 3: Reinforce that fair trade is when the producers of a product get paid a fair share of the final price. Ask the children to discuss how
much they think each of the people involved in the process should get from a banana costing 30p. Ask for general ideas - who should get least / most? Discuss who has put most effort and time into the process.
Give pupils copies of the 'Slicing up the banana' sheet. The banana has been sliced into five unequal pieces, representing how much each person actually gets. Ask the children to match up the person with the slice (and therefore the money) that they think is fair.

Discussion: Ask for pupil feedback and some explanations. Then tell them the real breakdown:

Supermarket 13p
Shipper and importer 7p
Plantation owner 5p
Ripener 4p
Plantation worker 1p

Ask for responses - does this seem fair?

PLENARY

Activity 4: Explain that the plantation worker and owner would get a fairer share if the banana was traded fairly. Return to Oxfam's 'Bonkers about bananas!' website at http://www.oxfam.org.uk/coolplanet/kidsweb/banana/index.htm and look through the 'Banana farmers' section. This section explains some of the benefits of fair trade to people in the Windward Islands of the Caribbean.

Discussion: Discuss the benefits for the farmers - is this fairer? Show pupils the Fairtrade logo at http://www.fairtrade.org.uk/ and challenge them to find out how many products their family buys have a Fairtrade alternative in their shop.

LEARNING OUTCOMES

PSE Attitudes and Values:
• To respect others and their property, value their achievements and their uniqueness and recognise the importance of equality of opportunity.
• To empathise with others' experiences and feelings.

PSE Knowledge and Understanding:
• To understand the importance of democratic decision making and involvement and how injustice and inequality affect people's lives.
RESOURCES

Internet access
Banana quiz
10kg of weights
Slicing up the banana sheet

FOLLOW UP WORK

An education pack called ‘Fairtrade in Your School’ is available online at http://www.fairtrade.org.uk/resources_education_packs.htm, which contains ideas for assemblies, further lessons and a question and answer fact sheet.
Banana quiz!

Read these questions through before you look at the 'Bonkers about bananas!' website with your class. Put your hand up when you can answer any of the questions. Good luck!

1. Why are bananas wrapped in blue plastic?
2. How many months do the farmers have to look after the banana plants before the bananas can be harvested?
3. What are bunches of bananas called?
4. Why are bananas packaged in boxes?
5. What happens to bruised bananas?
6. How long does it take for the bananas to reach the UK by ship?
7. How many kilograms of bananas do we each eat on average every year?
8. What happens if you choose to buy fair trade bananas?
Slicing up the banana

Now that you know how a banana is grown and how it gets from the Caribbean to your local shop, try to match the people involved with the amount of money they get paid for each banana.

<table>
<thead>
<tr>
<th>Shipper and Importer</th>
<th>Plantation Worker</th>
</tr>
</thead>
<tbody>
<tr>
<td>1p</td>
<td>13p</td>
</tr>
<tr>
<td>5p</td>
<td>4p</td>
</tr>
<tr>
<td>7p</td>
<td>4p</td>
</tr>
</tbody>
</table>

Supermarket | Plantation Owner | Ripener
7. Bags of trouble!

LEARNING OBJECTIVES

- To investigate the amount and types of packaging used around food products.
- To learn about the impacts of plastic shopping bags on the environment of Bangladesh.
- To devise ways of reducing the amount of food packaging that is thrown away.

LEARNING ACTIVITIES

INTRODUCTION

Activity 1: This is a quick engage activity. Show the class a standard bag of shopping (including a banana), give the food items out to pupils and ask them to remove ALL of the packaging from the items (be aware of food allergies). Ask the children to put all of the food and its packaging on tables at the front of the class. If you include food items such as cake bars, there might be up to four layers of packaging for each item.

Discussion: Examine the amount of packaging with the class. List the types of materials used and compare the amount of packaging to the amount of food. What will happen to it?

Introduce the class to the 'waste hierarchy' – REDUCE, REUSE, RECYCLE. To reduce waste is the best option, recycling should be considered if something can’t be reused and throwing away should be avoided as far as possible. Look at the items of packaging – which can be reused or recycled, which will go to landfill? List the packaging materials on the board under the headings REUSE, RECYCLE and LANDFILL. Did pupils think there was too much packaging? Was some packaging necessary or could it be reduced? Ask for examples.
MAIN ACTIVITY
(adapted from a literacy activity at www.globalfootprints.org/pdf/waste_lit56.pdf)

Activity 2: Read the news report 'The great poly bag ban' as a class.
Discussion: Reinforce and extend comprehension by asking open and closed questions such as:
• The writer begins by stating that the ban on polythene bags is to save the city of Dhaka from 'imminent environmental disaster'. What persuasive examples does he use as evidence for this?
• Is the article balanced or biased in favour of a particular viewpoint?
• Who might object to the ban? (conflict between ease and environment)
• Why are polythene bags a problem? (because plastic is non-biodegradable and won’t rot away)
• Why is this such a big problem for Dhaka? (because Dhaka is prone to severe flooding, which is made worse by bags blocking the drains)

Activity 3: Now that the children know some of the environmental impacts of packaging, their task is to design new packaging for the food products you’ve shown them. Their design should reduce the amount of packaging needed if possible and use reusable or recyclable materials, which you’ve listed on the board. Allow the pupils to work in groups and choose their own food item to encourage enthusiasm for the task. The designs can be rough and ready – the process of considering amounts and types of packaging is the important part. Give each group a large piece of sugar paper for doodling and drafting ideas.
Discussion: Ask each group to present their ideas to the class.

PLENARY

Activity 4: Show the class the plastic carrier bag that the food came in. Give them one minute to list as many ways they can think of that that bag could be reused in school or at home.
Discussion: Feedback pupil’s ideas. Will they think before throwing them away next time? How do they think packaging affects the environment and therefore your eco-footprint? Finally, ask about the banana’s packaging – did it need any, or was its own skin enough?

LEARNING OUTCOMES

PSE Attitudes and Values:
• To take an active interest in the life of the community and be concerned about the wider environment.
PSE Knowledge and Understanding:
• To know how the environment can be affected by human activity.
• To understand how conflict can arise from different views about environmental issues.

RESOURCES

One bag of shopping containing various food items in their packaging (include a banana)
(Marc Everett, Sainsbury's Food Advisor at the Colchester Avenue store, is keen to be involved with this project and may provide these resources for your school if you contact him in advance.)
The great poly-bag ban sheet
Large sheets of sugar paper
Reduce, reuse, recycle ... repackage! sheet

FOLLOW UP WORK

Pupils could develop their designs for homework on the Reduce, reuse, recycle ... repackage! sheet. A 3D display of current and 'new and improved' packaging could be created.
The Bangladesh Government has begun enforcing a complete ban on the sale and use of polythene bags in the capital Dhaka.

Environment Minister Shahajahan Siraj says the decision has been taken to save the city from an imminent environmental disaster.

Environmental groups say millions of polythene bags disposed of every day are clogging Dhaka's drainage system and posing a serious environmental hazard.

Polythene shopping bags were introduced into Bangladesh nearly two decades ago, quickly replacing jute bags traditionally in use in every household of Bangladesh.

A recent study says that in Dhaka an average household uses about four polythene bags a day.

Every day nearly ten million polythene bags are disposed of by Dhaka residents.

These disposed polythene bags have posed a new environmental threat for an overcrowded city which is already suffering from high levels of air pollution and other kinds of environmental hazards.

The Environment Ministry has launched a massive publicity campaign to persuade the public not to use polythene bags.

Environment Minister Shahajahan Siraj says the campaign has been successful in raising the awareness of the public about the hazards of the bags. Mr Siraj says they are promoting jute bags as an alternative to polythene and people have responded positively.

Despite the campaign, a large number of Dhaka residents were seen on Tuesday using polythene bags which they say are user friendly and cheaper.

Environmental groups say that, without tougher environmental legislation, it will be very difficult for the government to attain any success in its fight against polythene.

Mr Siraj said the government would propose a bill in the next session of the parliament to ban the production of polythene bags.

He warned the measure could take some time as they had to think of alternative employment for nearly 18,000 workers now employed in the industry.
Reduce, reuse, recycle... repackage!

Your task is to design new packaging for an item of food. Good luck!

Remember the waste hierarchy:
• your packaging should REDUCE waste (so use less materials than the current packaging);
• then you should think about how your packaging can be REUSED at home or in school;
• try to design the packaging from materials that can be RECYCLED, not thrown away.

This packaging is for .................................................................
The current packing is ....................................................................

I have designed the new packaging like this because ..........................................................

.................................................................
LEARNING OBJECTIVES

- To carry out and take part in a survey about food eaten within the school.
- To collate survey data and input it into a spreadsheet for processing.
- To use computer software to calculate the school’s eco-footprint for food.

LEARNING ACTIVITIES

INTRODUCTION

These two sessions require the use of an ecological footprint calculator that can be found at the footprints website www.schoolsfootprint.co.uk

Activity 1: Revise the concept of eco-footprinting as introduced in session three - can the pupils remember what topics it covered? Ask pupils to explain how food choices impact on the environment by considering the topics explored so far in this project.

Discussion: Tell the class that they are going to calculate the real FOOD global footprint for the school, so they need to collect data about what people eat in school. Show the children the 'Lunch Box Survey'. What time of day do they think they should be filled in? Talk through the questions to ensure understanding.

MAIN ACTIVITY

Activity 2: BEFORE LUNCH. Identify which pupils have packed lunches and mix the class up so each child can see a lunch box. Complete the 'Lunch Box Survey' individually or in groups. These surveys aren’t needed for the footprint but do encourage the pupils to look carefully at the food they eat in school.

Discussion: Discuss the multiple-choice questions on the sheet, talk about recycling and packaging (thinking back to session seven). What kinds of choices have been made when the lunchbox was packed? Relate the contents of the lunch boxes to healthy eating if appropriate, being very careful that children are not judgemental about each other's food.
**Activity 3: AFTER LUNCH.**

Use the food survey material from [www.schoolsfootprint.co.uk](http://www.schoolsfootprint.co.uk)

**Discussion:** Did the pupils have any problems? Was it a special day in school (e.g. Christmas dinner day) that might make the footprint unusual? Why do pupils think there was an organically produced food listed in the questionnaire? (Organic food reduces a food footprint, if all the food consumed in Cardiff was organic, the food footprint would be over a third smaller [39%]). Although the impact of food transport for organic and conventional food items remains the same, food production has a lower impact, as organic food is a less energy intensive method of producing food - no chemical fertilizers or pesticides are used in production (source: Cardiff Footprint Technical Report, Cardiff City Council).

**PLENARY**

**Activity 4:**

**Discussion:** The class will now have a measure of the school’s food eco-footprint. Ask the class if they can visualise how large this is compared to a full sized football pitch. Explain that one hectare is roughly the size of a full sized football pitch. Take the class to the school hall or playground to try to physically mark out the size of the school’s food eco-footprint using cones etc around its perimeter. Talk about the fact that this much land is needed every year to produce the food we eat in school. Are pupil’s surprised? Is this area what they visualised?

**LEARNING OUTCOMES**

Mathematics Handling Data:
- To interpret tables used in everyday life.
- To collect discrete data.

**RESOURCES**

Information form the [www.schoolsfootprint.co.uk](http://www.schoolsfootprint.co.uk)
Pupils lunch boxes, still containing their lunches!
Cones etc. to mark out footprint area
Hall / playground
Lunch Box Survey

Name:
Age:

Your lunch box

• Draw a picture of what you use to bring your lunch to school in.

• What is it made of? (please tick)
  1. Plastic □
  2. Metal □
  3. Paper □
  4. Fabric □

• Do you?
  1. Re-use your lunch box until it breaks □
  2. Re-use your lunch box for a few weeks, then get a new one □
  3. Get a new lunch box every day or every week □

• If your lunch box is recyclable, do you recycle it?
  Yes □
  No □
Look inside your lunch box

- Draw what's inside.

- Write a list of what you see.

- What is your food and drink packaged in? (please tick)
  1. Plastic
  2. Tin Foil
  3. Paper or Card
  4. Glass
  5. Metal Can

- What do you do with the packaging? (please tick)

<table>
<thead>
<tr>
<th></th>
<th>I recycle it</th>
<th>I throw it away</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Plastic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Tin Foil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Paper or Card</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Glass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Metal Can</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
LEARNING OBJECTIVES

- To compare and contrast the school’s eco-footprint to the fair-share of each person on the Earth.
- To produce a graph showing the eco-footprints of people in selected countries around the World and compare and contrast them with those of people in Cardiff and Wales.

LEARNING ACTIVITIES

INTRODUCTION

Activity 1: Briefly recap the previous sessions in which the pupils calculated the size of the school’s food eco-footprint. Can they recall how much land was needed every year to produce the food we eat in school? How much land was that compared to a full sized football pitch? Introduce the idea that you are going to look at total eco-footprints for people in different countries.

Discussion: Can pupils recall that there are over six billion people living on planet Earth? Can they recall that the fair share is for everyone to have around two global hectares each? Compare this to the school’s food eco-footprint – is it smaller or larger? What does this mean? (The footprint is given per pupil)

MAIN ACTIVITY

Activity 2: Recall the topics that make up an eco-footprint by pupils concept mapping in groups to try to remember topics they can’t recall. Feedback and list the six topics: food, water, waste, energy, buildings and transport.

Discussion: Which part of the eco-footprint do pupils think might make the biggest contribution and why?

Activity 3: Locate Wales, the US, Bangladesh and Jamaica on globes / maps. Ask the class to predict which they think will have the largest eco-footprint per person and briefly give their reasons. Supply the class with data on the size of the eco-footprint for people in Cardiff, Wales, the US, Bangladesh and Jamaica, on the 'Footprints around the world' sheet. (If you study a different country in Geography, you could search the Internet to see if their eco-footprint has been calculated and use this as well). They should use pupil software to make a graph of these four eco-footprint sizes. Alternatively, squared paper could be used to hand draw graphs.
Discussion: Look at the graphs together and compare the eco-footprints of the different countries. Why do the children think the eco-footprints are different sizes in different countries? Discuss different levels of consumerism (buying ‘stuff’), international travel, infrastructure etc. in those countries. What could make the eco-footprint of people in Cardiff bigger than that for people in Wales on average? (Cardiff’s data incorporates food and transport for everyone visiting the City, not just residents, including big events like rugby tournaments.)

PLENARY
Activity 4: Do we need to reduce our footprint in Cardiff? How might we do so? Pupils note down ideas in groups.
Discussion: Feedback ideas and explain that you will all write an action plan next session to put your ideas into practice.

LEARNING OUTCOMES

Mathematics Handling Data:
• To draw meaningful conclusions from statistics and graphs, and communicate these using appropriate language; recognise why some conclusions can be uncertain or misleading.

RESOURCES

Globes / maps
Footprints around the world sheet
Computers with graphing software / squared paper

FOLLOW UP WORK

Pupils could use the Internet and reference books to research children’s lifestyles in the countries studied today: the USA, Bangladesh and Jamaica and consider how different lifestyles impact differently upon the planet.
Footprints around the world

This table shows the eco-footprints of people in different countries. The information would be much easier to compare in a graph, wouldn’t it? You need to list the eco-footprints in size order, then draw a graph to show them clearly.

Table of eco-footprints for selected countries of the world
(source: WWF Living Planet Report 2002 / Sustainable Development Unit Cardiff Council)
(Data rounded to nearest 0.5 global hectares)

<table>
<thead>
<tr>
<th>Country / City</th>
<th>Eco-Footprint (global hectares per person)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiff</td>
<td>5.5</td>
</tr>
<tr>
<td>Wales</td>
<td>5.0</td>
</tr>
<tr>
<td>USA</td>
<td>10.0</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>0.5</td>
</tr>
<tr>
<td>Jamaica</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Table of eco-footprints for selected countries of the world – in size order

<table>
<thead>
<tr>
<th>Country / City</th>
<th>Eco-Footprint (per person)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
10. Action stations!

LEARNING OBJECTIVES

- To understand what an action plan is.
- To identify and agree actions that could be followed to reduce the school’s eco-footprint that are both realistic and achievable.

LEARNING ACTIVITIES

INTRODUCTION
Activity 1: Reflect on learning from previous session. Can the pupil’s remember how big the school’s footprint was in comparison with Cardiff’s, Wales’ or other countries? Did they think this was a good or a bad thing?
Discussion: Now that the school’s eco-footprint has been measured, what’s next? Hopefully the class will want to reduce the footprint – but whose responsibility is this? Pupils’? Teachers’? Parents’? Headteachers?
Explain that if many people need to work together to do something an action plan is often used so that everybody knows what they need to do. What might you need to put on an action plan (Action, who, when etc)?
Use the scenario of going on holiday to prompt thinking. A holiday doesn’t just happen – explain that the family must choose when and where to go first, then an adult must book and pay for the trip, then the children must pack their bags before they all travel and so on.

MAIN ACTIVITY
Activity 2: Show the class the EcoSchools Action Plan example and give them time to talk about what it means. Briefly explain each column and explain that targets are included so that the actions are realistic and can actually be achieved.
Introduce the idea of writing an action plan for reducing the school’s food eco-footprint based on topics they’ve learnt about – give one example to get children started e.g. Make and display posters telling staff and pupils about fair trade, have an assembly about food miles etc.
Give pairs copies of the blank EcoSchools Action Plan to fill in with their ideas. Allow them to move around the classroom asking each other for ideas.
Discussion: Feedback ideas, completing an enlarged action plan on the board (use an interactive whiteboard if you have one, so that the work can be saved).

Activity 3: Ask the class how many actions we should agree on for the school - how many could we really achieve? Work through each action to agree a plan, determining deadlines etc together and democratically. Write action plan as a class, definitely including a publicity campaign. Highlight that this action plan will go towards the EcoSchool work if the school is involved in this programme. Discussion: If possible, invite the headteacher into the classroom to agree the action plan with the class. This might be very useful if the class want actions that will impact on budgets! Who else do the children need to agree before the action plan can be used (they must not assume help from everyone)?

PLENARY
Activity 4: Improvise some of the actions with pupils - e.g. pretend it's lunchtime and one child asks another not to throw away their plastic bottle but recycle it instead - what happens next? Discussion: Which actions do the pupils think will be most successful at reducing the school's eco-footprint?

LEARNING OUTCOMES

PSE Attitudes and Values:
• To understand the importance of democratic decision-making and involvement.

PSE Knowledge and Understanding:
• To understand the limitations on and costs and benefits of spending choices.

RESOURCES

EcoSchools Action Plan example sheet
EcoSchools Action Plan sheet
### Eco-Schools Action Plan Example

<table>
<thead>
<tr>
<th>Topic</th>
<th>Action</th>
<th>Target / Measure</th>
<th>Timescale / Deadline</th>
<th>Responsibility</th>
<th>Actual result Achieved / Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Waste</strong></td>
<td>Recycle paper &amp; cans</td>
<td>No. of bags thrown out</td>
<td>End of summer term</td>
<td>Headteacher / all teachers</td>
<td>13% increase in recycling – June 2004</td>
</tr>
<tr>
<td></td>
<td>Use both sides of paper</td>
<td>Amount of recycling – target 10% increase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Healthy Living</strong></td>
<td>Promote healthy snacks</td>
<td>No. of healthy snacks sold</td>
<td>Ongoing – measure each term</td>
<td>Headteacher / named teacher</td>
<td>Healthy snacks on increase 9% decrease in fizzy drinks over 3 months</td>
</tr>
<tr>
<td></td>
<td>Introduce water fountains</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No. of cans of fizzy drinks sold – target 10% decrease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td>Turn off lights</td>
<td>Monitor energy bills – target 5% reduction over 1 year</td>
<td>One year (Summer 2004)</td>
<td>All pupils and staff</td>
<td>Final bill yet to be received</td>
</tr>
<tr>
<td></td>
<td>Shut doors</td>
<td></td>
<td></td>
<td>Headteacher to communicate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control heating</td>
<td></td>
<td></td>
<td>Caretaker to control heating</td>
<td></td>
</tr>
</tbody>
</table>
# Eco-Schools Action Plan

<table>
<thead>
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<th>Topic</th>
<th>Action</th>
<th>Target / Measure</th>
<th>Timescale / Deadline</th>
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</thead>
<tbody>
<tr>
<td>• <em>Global perspective</em> (Fairtrade, food miles)</td>
<td>Waste (packaging)</td>
<td></td>
<td></td>
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<td>Waste (packaging)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
11. Shout about...

LEARNING OBJECTIVES

- To consider different forms of advertising used to 'sell' a product or an idea.
- To work with others to design and produce effective, non-judgemental publicity material.
- To understand that an action plan needs to be promoted to be successful.

LEARNING ACTIVITIES

INTRODUCTION

Activity 1: Explain that the pupils are going to action one of the points of their action plan - publicity. Ask them why this is an important part of the process - link back to global citizenship and how we must all work together to reduce our eco-footprint. Ask pupils to list all the ways they can think of that companies use to advertise their product or idea to the public.

Discussion: Discuss the pupils' lists. They might have thought of TV advertising, posters in bus stops, adverts in magazines, banners on websites, leaflets dropped through the door, letters to known customers and so on. Discuss which methods they could practically use to share what they've learnt with others. Who will they target? Agree who will work on which type of publicity. The teacher should decide how to organise the class and how many forms of publicity they should work on.

MAIN ACTIVITY

Activity 2: Pupils work together in pairs or groups to design and produce effective posters, letters, signs etc. for use in the school and/or to target parents. Extra adult helpers might be useful in this session to keep pupils focussed on their task and help pupils access resources.

Discussion: Examples of magazine adverts, print outs of Internet banners etc. can be used with groups to help the children identify how to make their publicity clear and effective. Remind the pupils to keep their publicity non-judgemental as different people have different views on what is right and wrong. For example, a poster that says 'eating meat is
wrong' does not explain why and may annoy meat eaters. An alternative message such as 'British apples are great for you and for the environment' is positive and clearly linked to pupil learning.

PLENARY

*Activity 3:* Take time to allow the groups to look at and talk about each other's work. Decide as a class how this publicity material should be shared with the school - where should posters be displayed, could they be scanned and put on the school website etc. Agree these decisions with the head and action them!

Revisit the activity pupils completed at the very beginning of the project by completing the 'What's important now?' sheet.

*Discussion:* Encourage the pupils to compare their 'What's important?' sheet to their 'What's important now?' sheet and volunteer explanations of how their attitude has changed and why. Congratulate them all on their clear thinking and enthusiasm through the project and explain that you all need to carry on with your improved actions if the school's eco-footprint will be smaller next year.

**LEARNING OUTCOMES**

PSE Attitudes and Values:
- To take increasing responsibility for their actions.

PSE Knowledge and Understanding:
- To know that people differ in what they believe is right and wrong.

**RESOURCES**

- Adverts from magazines / newspapers
- Print outs of Internet banners
- Paper, pens, felts etc.
- Extra adult helpers - if possible.
- Completed What's important? sheets from session one
- What's important now? sheet

**FOLLOW UP WORK**

Pupils could try to find out the effectiveness of their publicity campaign. Some suggestions include:
• If pupils have displayed posters / signs around the school, they could interview members of other classes to see if they have noticed them and if so whether the other pupils have changed their lifestyle as a result;
• If promotional material was aimed at teachers, pupils could hot seat a member of staff to investigate whether they've noticed any changes;
• If letters have been written to supermarkets etc., responses could be shared and discussed with the class. Is further correspondence needed?
• If pupils have targeted parents in their publicity campaign, they could devise a shopping survey to compare their parent's choices before and after the campaign. It would be interesting to ask why if changes haven't been made, so pupils begin to understand that choices can be complicated and often involve financial and other considerations.
What’s important now?

You’ve just taken a journey with your class and your teacher to discover how the choices you make every day can change the world! Was it good? Do you think it’s changed you at all?

Just like you did at the start of your journey, colour in this graph to see what you think now. Then compare this graph with the one you completed at the beginning of this project and see whether you have changed!

Colour in the globes in each column – the more you agree with the statement, the more globes you colour in, the less you agree, the less colouring you do! You’ll end up with something that looks a lot like a pictogram.

I totally agree!

I completely disagree!

It’s very important to look after the Earth.

What I do every day uses the Earth’s resources.

What I eat has an effect on the world around me.

Studying food packets can help me save the world!

I know what ‘Fair Trade’ means.

I know how to reduce my impact on the Earth.

I encourage people around me to look after the Earth.